

PATENT  
Attorney Docket No.: 10006299-1

**In The U.S. Patent and Trademark Office****In Re the Application of:****Inventor(s):** Qian Lin et al.**Confirmation No.:** 8971**Serial No.:** 09/854,580**Examiner:** Yubin Hung**Filed:** May 15, 2001**Group Art Unit:** 2624**Title:** IMAGE ENHANCEMENT USING FACE DETECTION

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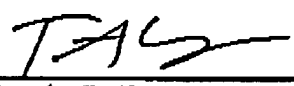
1 sheet of Transmittal of Reply Brief.

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Respectfully submitted,

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December 31, 2007

  
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PATENT APPLICATION

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Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, Colorado 80527-2400ATTORNEY DOCKET NO. 10006299-1IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Qian Lin et al.

Confirmation No.: 8971

Application No.: 09/854,580

Examiner: Yubin Hung

Filing Date: May 15, 2001

Group Art Unit 2624

Title: IMAGE ENHANCEMENT USING FACE DETECTION

Mail Stop Appeal Brief - Patents  
Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450TRANSMITTAL OF REPLY BRIEFTransmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on October 30, 2007.

This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new ground rejection.)

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Atty Docket No. 10006299-1

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>Applicant(s):</b>	Qian Lin et al.	<b>Confirmation</b>	8971
<b>U.S. Serial No.:</b>	09/854,580	<b>Examiner:</b>	Yubin Hung
<b>Filed:</b>	May 15, 2001	<b>Group Art</b>	2624
<b>For:</b>	IMAGE ENHANCEMENT USING FACE DETECTION		

MAIL STOP APPEAL BRIEF-PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**REPLY BRIEF**

The Appellant respectfully submits this Reply Brief in response to the Examiner's Answer mailed on October 30, 2007. This Reply Brief is hereby submitted with two months of the Examiner's Answer because December 30, 2007 is a weekend day.

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**I. STATUS OF CLAIMS**

Claims 5, 7, 13, 16, 17, 19, 22-24, and 26 have been canceled without prejudice or disclaimer of the subject matter contained therein.

Claims 1-4, 6, 8-12, 14, 15, 18, 20, 21, 25, and 27-33 are pending and stand rejected.

Pursuant to 37 C.F.R. § 41.37, the Appellants hereby appeal the Examiner's decision finally rejecting Claims 1-4, 6, 8-12, 14, 15, 18, 20, 21, 25, and 27-33 to the Board of Patent Appeals and Interferences. Therefore, Claims 1-4, 6, 8-12, 14, 15, 18, 20, 21, 25, and 27-33 of this application are at issue on this appeal.

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**II. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

a) Whether Claims 1, 2, 8, 10, 15, 21, and 27-33 should have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,292,574 to Schildkraut et al. (hereinafter "Schildkraut et al.") in view of U.S. Patent No. 6,181,806 to Kado et al. (hereinafter "Kado et al.") and further in view of U.S. Patent No. 5,410,618 to Fowler (hereinafter "Fowler").

b) Whether Claims 3, 4, 11, 12, and 18 should have been rejected under 35 U.S.C. 103(a) as being unpatentable over Schildkraut et al. in view of Kado et al. and Fowler, and further in view of U.S. Patent No. 6,680,745 to Center, Jr. et al. (hereinafter "Center, Jr. et al.").

c) Whether Claims 6, 14, 20, and 25 should have been rejected under 35 U.S.C. 103(a) as being unpatentable over Schildkraut et al. in view of Kado et al. and Fowler, and further in view of U.S. Patent No. 6,009,209 to Acker et al. (hereinafter "Acker et al.").

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**III. ARGUMENT****A. Response to Argument Section A.1**

The Examiner argues that "claim 1 as recited does not require that the mean or variance of the pixels in one or more human faces (i.e., one or more regions of the image in question) to have any effect on the pixels of another region." This argument is improper and mischaracterizes Claim 1 of the present invention because Claim 1 recites, *inter alia*:

automatically enhancing an appearance of the entire image by using a mapping technique to produce the image with target levels for a mean value or a variation value of the pixels in the one or more human faces, wherein the entire image is automatically enhanced such that the pixels in the one or more human faces have the target levels for the mean value or the variation value of the pixels.

Clearly, Claim 1 recites that the entire image is enhanced to achieve target levels for a mean value or a variation value of the pixels in the one or more human faces. In other words, the levels to which the pixels in the one or more faces are enhanced directly affect the levels to which the entire image, including those sections that do not contain the one or more human faces, are enhanced.

The Examiner also argues that "Fowler clearly teaches enhancing the entire image since each and every strip is enhanced." Although this statement appears to be accurate, this argument does not make up for the deficiency noted above. Instead, this argument merely asserts that each of the lofargram strips is enhanced separately and thus cannot reasonably be interpreted to mean that each and every strip is enhanced to levels that cause a particular strip to be enhanced to a target mean value or variation value. More specifically, this line of argument presented by the Examiner fails to prove that any of the strips are affected by the enhancement of any of the other strips. Instead, the Examiner's arguments merely show that each of the lofargrams is separately enhanced in Fowler.

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**B. Response to Argument Section A.2**

In this section of the Examiner's Answer, the Examiner argues that "Fowler clearly teaches enhancing the entire image since each and every one of the strips in the lofargram (an image) is enhanced." This section, however, again fails to establish that the levels to which the pixels in one or more of the lofargram strips are enhanced directly affect the levels to which the entire image, including those sections that do not contain those specific one or more lofargram strips, are enhanced.

**C. Response to Argument Section A.3**

The Examiner argues that Kado et al. discloses "that the pixel values that are to be enhanced to achieve target levels for a mean are lightness values." In addition, the Examiner appears to argue that it would have been obvious to set the target levels in Kado et al. through a determination of human visual preferences. The Appellant respectfully disagrees with this argument, because as discussed in the Appeal Brief, Kado et al. discloses that brightness correction on images containing faces is performed in an effort to make the faces more uniform with faces contained in other images and therefore improve automated matching of faces contained in the different images. As such, the brightness correction in Kado et al. is performed to improve accuracy in automated matching of human faces and not for purposes of making the images contain characteristics according to human visual preferences. Accordingly, it is likely that the brightness correction in Kado et al. would differ if performed according to human visual preferences and is thus an unobvious modification of Kado et al.

The Examiner also argues that Fowler "discloses adjusting the pixel values to achieve a desired variance value, which results in a different contrast." The Appellant also respectfully disagrees with this argument because Fowler discloses that the lofargram data is



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enhanced to better distinguish signals from background noise contained in data received through a sonar system. Accordingly, the enhancement performed on the lofargram data would not be based upon human visual preferences. Again, the proposed modification of Fowler to enhance the lofargram strips according to human visual preferences is improper.

**D. Response to Argument Section A.4**

The Appellant relies upon the arguments presented in Appeal Brief and do not reiterate those arguments here. Accordingly, the Appellant respectfully request that those arguments be considered as a response to this section of the Examiner's Answer.

**E. Response to Argument Sections B.1 and C.1**

The Appellant does not believe that responses to these arguments are necessary at this time. Instead, the Appellant respectfully relies upon the arguments set forth in the Appeal Brief to traverse the arguments set forth in this section of the Examiner's Answer.

**F. Summary**

For at least the foregoing reasons, contrary to the Examiner's assertions, it is respectfully submitted that the combination of Shildkraut et al., Kado et al., and Fowler to reject Claims 1-4, 6, 8-12, 14, 15, 18, 20, 21, 25, and 27-33 proposed in the Examiner's Answer are improper and should therefore be withdrawn.

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**V. CONCLUSION**

For at least the reasons set forth above, it is respectfully submitted that the rejection of Claims 1-3, 5-8, 10, 16, and 17 is clearly improper. The Appellant therefore respectfully requests that the Board of Patent Appeals and Interferences reverse the Examiner's decision rejecting Claims 14-19 and 27 and to direct the Examiner to pass the case to issue.

Respectfully submitted,

Dated: December 31, 2007

By

  
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